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THE Farm Cost SITUATION

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GENERAL SITUATION

Prices in 1950 of most items purchased by farmers for use in production are expected to average 3 to 4 percent lower than in 1949. The index (1935-39=100) of prices paid by farmers for items used in production averaged 192 in 1949, or 5 percent lower than the 202 in 1948. (See table on page 2.) Prices of many items such as motor vehicles and supplies, farm machinery, fertilizer and supplies, however, were higher in 1949 than in 1948.

Probably 1950 will be the first year in nearly two decades that prices of all major groups of items purchased declined. But farmers cannot look on the decline with too much optimism because it is probable that prices received by them for products sold also will decline. The

Goods and services used in production: Prices paid by farmers and farm wage rates, United States

(Index numbers 1935-39=100)

(Revised January 1950)

Year	All commodities 1/	Feed	Livestock	Motor supplies	Motor vehicles	Farm machinery	Farm supplies	Building and fencing materials	Fertilizer	Seed	Wage rates
1910	78	93	74	---	---	65	69	69	96	78	79
1911	79	94	69	---	---	65	71	71	96	90	81
1912	82	98	77	---	---	65	71	71	98	98	83
1913	81	92	90	---	---	65	73	70	99	81	86
1914	82	97	93	---	---	65	73	64	100	75	83
1915	84	96	92	---	---	67	78	70	106	75	83
1916	93	104	100	---	---	71	86	81	121	104	93
1917	126	167	128	---	---	80	115	94	133	138	117
1918	145	178	146	---	---	101	149	111	169	149	146
1919	157	198	148	---	---	105	157	130	178	170	170
1920	157	198	130	---	---	108	156	141	177	202	199
1921	103	100	71	---	---	105	135	108	149	104	129
1922	102	108	87	---	---	93	116	110	125	100	127
1923	111	129	90	---	---	97	120	110	131	105	142
1924	113	132	94	125	88	101	125	111	124	107	150
1925	117	136	100	133	89	101	124	113	136	122	150
1926	114	116	106	138	87	101	125	112	135	142	151
1927	114	122	119	123	89	101	122	110	118	125	152
1928	119	132	146	120	90	101	123	109	128	111	152
1929	118	130	143	119	92	100	122	110	127	113	154
1930	109	116	106	113	89	99	120	107	124	110	146
1931	91	82	74	96	89	98	111	95	112	88	115
1932	80	61	61	95	88	93	98	87	98	57	86
1933	80	70	56	93	87	90	91	90	91	61	73
1934	92	98	56	99	92	94	96	101	103	88	82
1935	98	101	94	99	93	97	96	99	102	105	88
1936	99	104	90	100	97	98	97	98	97	93	94
1937	107	118	102	102	101	100	102	102	101	130	107
1938	98	89	101	101	107	103	104	101	100	94	107
1939	98	88	113	98	102	102	101	100	100	78	105
1940	99	95	113	96	101	100	104	101	96	86	107
1941	105	103	127	99	107	101	111	108	96	82	125
1942	119	126	152	106	116	107	123	118	107	111	163
1943	132	149	173	109	121	111	137	123	114	139	217
1944	140	165	163	111	131	114	144	131	116	158	263
1945	142	164	178	111	135	115	146	134	118	162	297
1946	154	190	202	113	139	119	147	146	119	167	320
1947	181	225	252	124	161	135	159	191	131	192	346
1948	202	238	313	138	181	157	169	212	143	223	365
1949	192	196	278	140	199	176	176	210	147	202	354
Jan.	195	210	283	---	---	---	---	---	---	---	364
Feb.	192	201	271	---	---	---	---	---	---	210	---
Mar.	196	201	300	141	199	173	174	215	---	206	---
Apr.	195	200	298	---	---	---	---	---	148	197	353
May	195	198	299	---	---	---	---	---	---	197	---
June	193	192	292	141	200	178	176	210	---	---	---
July	190	194	260	---	---	---	---	---	---	---	361
Aug.	189	195	257	---	---	---	---	---	---	---	---
Sept.	189	192	265	140	199	179	176	204	146	197	---
Oct.	190	190	273	---	---	---	---	---	---	---	342
Nov.	189	188	272	---	---	---	---	---	---	---	---
Dec.	190	191	269	140	199	178	176	203	---	---	---
1950											
Jan.	191	191	284	---	199	---	---	---	---	---	355
Feb.	191	190	294	---	---	---	---	---	---	197	---
Mar.	193	191	306	---	---	---	---	---	---	194	---

1/ Excluding wages.

Note: For a list of items included in this table see "Agricultural Prices", Bureau of Agricultural Economics, January 31, 1950.

index (1935-39=100) of prices received by farmers for commodities sold averaged 232 in 1949 compared with 266 in 1948 and 257 in 1947. A further decline of about 10 percent is expected in 1950.

Generally speaking, price relationships in 1949 were favorable to high farm production. Despite the expected decline of prices received in 1950 the ratio of prices received to prices paid by farmers will still be relatively favorable compared with prewar. In 1949, prices received by farmers for products sold averaged about 232 percent of the prewar (1935-39) average, and prices paid averaged 192 percent of the prewar average.

There are many ways for farmers to cut corners and maintain high production at low unit costs. The continuing price-cost squeeze will mean that farmers generally will need to do a careful job of planning their crop and livestock operations. The supply of farm workers in 1950 is expected to be more plentiful than in 1949, and at slightly lower rates. But costs of operating motor vehicles and farm machinery will remain high in 1950. Power and machinery costs per acre frequently can be cut by combining certain field operations and loading the tractor or power unit to optimum capacity. Per acre costs of both labor, power, and machinery can be reduced by combining operations where possible to obtain maximum efficiency and economy from the power unit. Consideration should be given to whether the extra harrowing, cultivation, or operation is worthwhile or will pay.

Farmers can cut costs by more efficient use of fertilizers on crops that will respond to their use. Profits can be increased through the use of fertilizers by applying the proper fertilizer material in the best manner at the proper time. In general, phosphates and complete fertilizers should be applied in advance of planting. Nitrogenous materials, on the other hand, are frequently applied as a top or side dressing. Phosphate and potash fertilizers have important residual advantages or effects particularly in the first year following their application.

Many livestock feeders could reduce unit costs by feeding balanced rations and feeding for maximum production and to optimum weights. Hogs, for example, on many farms are fed less high protein feeds than are required for greatest production or gain efficiency. More pasture and better pasture management also will increase returns. These are only a few of the ways in which individual farmers can maintain profits in the year ahead.

Most items of machinery and equipment are expected to be plantiful in the year ahead. Production of farm machinery is at a high level and stocks are the largest since 1941. Prices for new machinery are expected to average only slightly lower than in 1949, but trade-in allowances will be more liberal than in several years.

Feed costs in the first quarter of 1950 were about 7 percent lower than in the first quarter of last year. They probably will average for 1950 about 7 percent below last year's level. Prices received for livestock and livestock products in the first quarter of 1950 averaged about 10 percent lower than a year ago. The feeding ratio therefore is less favorable than a year ago, but generally is still favorable. The total supply of concentrates per animal unit is now the largest on record.

Prices of seeds in the first quarter of 1950 averaged only slightly lower than a year earlier. Prices of grass seeds, however, are relatively higher than legume seeds. Some farmers might profit by postponing some grass seeding and by substituting legumes for grass seeds in many of the seeding mixtures. The total supply of legume, grass, and cover crop seeds is about 5 percent larger than it was for the 1949 season. Supplies of grass seed are about the same, but the supply of legume seeds is about 8 percent higher.

Prices of fertilizer in 1950 probably will average only slightly lower than in 1949. But it will still pay farmers to continue using fertilizers. Compared to prewar, fertilizer prices are still low relative to prices of farm products. Supplies of ammonium nitrate apparently are not adequate in all areas to meet this season's needs. However, except for localized seasonal tight spots, supplies of other nitrogenous materials such as sodium nitrate and ammonium sulphate are expected to be generally sufficient in most sections of the country. Supplies of phosphates are expected to be adequate, and potash in fair supply considering the two months' loss of domestic production.

Prices of building materials, supplies and containers are expected to be steady to slightly higher in 1950 than in 1949. None of these materials has decreased substantially in price during the past six months. Steel prices are up about $4 per ton.

Supplies of most building materials and related items are expected to be more readily available and adequate to meet farm needs. Total steel production in 1949 was more than 10 percent below production in 1948. However, production in 1949 was the third largest for any peacetime year. Lumber production also was about 10 percent lower in 1949 than in 1948 but December stocks were about the same as a year ago. Prices of cement have increased steadily and a continued but small increase may be expected in 1950.

No significant change from the 1949 to the 1950 season is expected in prices of most insecticides and fungicides. Increased transportation costs may bring about minor increases in prices of some items. For the most part, materials needed to protect crops from insects and diseases during the 1950 season are expected to be available. If insects appear in more than average numbers during the 1950 season, supplies of some of the new insecticides may not be adequate to meet all demands. Local shortages may occur under these conditions. However, realizing the advantages of protecting their crops more farmers are ordering insecticides and fungicides well in advance of the season.

Current and prospective economic conditions plus the 17 percent drop in net farm income in 1949 brought the first decline of the past 10 years in land values. Prospective buyers are more inclined now to shop around for a farm that will pay out over the long run Quality of land and conditions of buildings are receiving more attention by buyers than in recent years. Financing the purchase of farm land is not as easy as it was a few years ago.

The amount of interest payments on the total farm debt will increase again in 1950. Such payments on short-term debt during 1950 probably will be about 5 percent greater than during 1949. Interest payments on farm mortgage loans can be expected to show an increase of about 6 or 7 percent during 1950. There is at present no evidence that interest rates will rise. Therefore, the increase in interest payments will result from a further increase in the amount of farm-mortgage loans outstanding.

Tax levies per acre of farm real estate which were payable late in 1949 and early 1950 are expected to average about 8 percent higher than during the previous year. This is the fifth year in which the increase in such levies has equaled or exceeded 8 percent, making the 1949 levy per acre the all-time high.

The total cost to farmers for insurance carried with mutual insurance companies averaged about 22 cents per $100 of insurance in 1949. This was about 12 percent lower than in 1940. Losses of farmers paid by farm mutuals decreased in 1949 for the first time since 1942, and were about 13 percent lower than in 1948.

Farm Labor

Farm wage rates in 1949 averaged lower than in 1948. This was the first drop in wage rates since 1939 and followed the big increase during the war and postwar years (table 1). Wage rates are still more than 3.5 times the prewar average, but have increased only slightly more than gross farm income per worker. An additional decrease is expected in 1950. Lower farm wage rates probably will prevail in all parts of the country whereas in 1949 they were higher than in 1948 in several States.

A substantial number of farmers depend on custom operators and machines for many jobs. Lower custom rates are in prospect for 1950. The lower rates will be in line with the drop in wage rates and decreased prices of farm products.

No general shortages of farm workers are expected to develop in 1950. An adequate number of workers was available last year to do farm jobs well and on time, and an easier farm labor market is in prospect for this year. Experienced workers for certain seasonal jobs may be limited in some local areas. However, with an increasing percentage of most farm jobs being done with power machinery, it is expected that the need for farm labor will be less in 1950 than in 1949. A reduction in number of farm workers probably will occur in all parts of the country. The reduction will be greatest in regions where acreage allotments result in fewer acres planted to labor intensive crops such as cotton.

Farm Power and Machinery

Prices of farm machinery have changed but little from the record high prices of the past 18 months. Little change in prices of these items is expected in 1950. However, trade-in allowances will be more liberal than in several years. Prices of farm machinery since 1941 have been relatively favorable in terms of price of farm products, farm incomes, and farm wage rates. But lower prices of farm products, lower farm incomes, together with acreage reductions of major crops are likely to be reflected in a reduced volume of purchases of farm machinery and equipment in 1950. The percentage reduction in dollar purchases of new farm machinery and equipment in 1950 likely will be at least as large as the percentage reduction in farm income from 1949 to 1950.

Adequate supplies of farm machinery are in prospect for 1950. Dealers' stocks of both new and used machines are now larger than at any time since 1941. As a result farmers' purchases can be expected to trend toward the seasonal buying pattern that prevailed prior to 1942. This will be in contrast to the war and early postwar years, when farmers purchased machinery when they could get it. Before 1942, most purchases were made just ahead of the seasons of heavy use.

Complete details of farm machinery and equipment production for 1949 are not yet available but it appears likely that production may have equaled or exceeded the record high production of 1948. Exports of farm machinery in 1949 were even higher than the large 1948 exports. Exports to ERP countries were lower in 1949 than in 1948, owing largely to increased foreign production of farm machinery but exports to their overseas territories and to non-ERP

Table 1.- Farm wage rates and related data, United States,
1935-39 average and 1940-49 inclusive
(Index numbers 1935-39=100)

Period or year	Farm employment			Gross farm production 2/		Farm wage rates 4/	Ratio of farm wage rates to	
	Total 1/	Family 1/	Hired	Total	Per worker 3/		Production per worker	Gross farm income per worker 5/
1935-39	100	100	100	100	100	100	100	100
1940	97	96	100	108	111	107	96	98
1941	95	94	99	111	117	125	107	89
1942	95	94	99	123	129	163	126	87
1943	94	94	94	120	128	217	170	92
1944	92	93	87	124	135	263	195	104
1945	90	92	82	123	137	297	217	110
1946	92	94	84	126	137	320	234	105
1947	93	95	87	121	130	346	266	97
1948	92	93	89	131	142	365	257	99
1949 6/	90	91	87	128	142	354	249	104

1/ Includes farm operators and members of their families working without wages.
2/ Includes value of farm-produced power of horses and mules.
3/ Based on total farm employment and total gross production.
4/ Simple average of quarterly indexes seasonally adjusted.
5/ Because of the increase in volume of production and the increase in the price of farm products, the gross farm income per worker has increased at about the same rate as have farm wage rates from the prewar years of 1935-39 to 1949.
6/ Preliminary.

countries were higher in 1949 than in 1948. Purchases of new machinery by U.S. farmers in 1949 probably were not as large as in 1948. As a result, a larger quantity of all kinds of machinery went into dealers' stocks. These stocks on January 1, 1950 were the highest since 1941.

Total volume of power and machinery on farms on January 1, 1949 was about 60 percent more than the average of the prewar years 1935-39 and the highest on record (table 2). This increase took place notwithstanding a decrease of more than 50 percent in total horse and mule numbers. For tractors and for machinery and equipment other than tractors and other motor vehicles, the increase was about 180 percent. There were more than twice as many farm motor trucks and 35 percent more automobiles on farms January 1, 1949 than in prewar years.

Farm purchases of tractors, motor trucks, automobiles and other farm machinery in 1949 were again large and the numbers on farms January 1, 1950 were larger than for any previous year. There were approximately 3,750,000 tractors of all types on farms January 1, 1950.

Table 2.- Farm power and machinery and related data, United States, 1935-39 average and 1940-50
(Index numbers 1935-39 = 100)

Year or period	Number on farms, January 1 1/						Volume on farms January 1 2/		Gross farm income calendar year 3/	Prices received by farmers
	Horses and mules, all ages	Work stock 3-years old and over	Colts under 1-year of age	Tractors	Auto-mobiles	Motor trucks	All machinery and equipment other than tractors and other motor vehicles	All farm power, (including work animals) machines and equipment		
	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
1935-39	100	100	100	100	100	100	100	100	100	100
1940	92	89	101	124	106	108	119	106	106	93
1941	90	87	98	135	111	113	126	110	133	115
1942	87	84	85	152	120	119	140	116	178	148
1943	84	83	69	169	112	132	157	121	221	179
1944	80	81	62	178	107	142	161	121	232	182
1945	76	77	54	195	107	153	176	126	244	188
1946	70	72	41	208	107	159	193	130	280	217
1947	64	66	35	225	116	178	214	137	332	259
1948	58	61	31	253	127	197	247	150	338	267
1949	52	55	27	281	136	216	281	163	305	234
1950 4/	47	50	22							

1/ The 1935-39 average was for horses and mules all ages, 15,750,000 head; for workstock 13,700,000 head; for colts 744,000 head; for tractors 1,244,000; for automobiles 3,896,000; and there were 973,000 motor trucks.
2/ In terms of 1935-39 prices. 3/ Includes government payments. 4/ Preliminary.

Discards of many farm machines in 1949 were larger than in the years 1942-48 and they can be expected to increase in relation to purchases in 1950 and in the years ahead.

Along with the increase in farm power machines there have been continuous decreases in the numbers of horses and mules on farms. The reduction has been especially pronounced since 1945. Annual reduction in horse and mule numbers since 1945 have averaged almost 10 percent. Prices of horses and mules in recent years have been extremely low and this has been reflected in smaller colt crops. The 1949 colt crop was only 164,000 head; the smallest in more than a century. Colt crops of this size if continued would maintain a horse and mule population of less than 3,000,000 head. There were 7,463,000 head of horses and mules of all ages on farms January 1, 1950.

Feed

Average feed costs in March were down a little from a year earlier. The index of livestock and livestock product prices was down about 8 percent so that the ratio was not quite as favorable for feeding as a year ago, but nevertheless generally favorable. It was 15 percent above average.

Feed costs during the first half of 1950 are expected to be slightly lower than in 1949 (table 3). The price of sorghum grains and hay in March was lower than a year ago, while corn, oats and barley were a little higher. Mixed feeds, oil meals and mill feeds were lower than a year earlier. The index of prices paid by farmers for feeds was down about 5 percent. Thus, purchased feeds have come down more than feed grains. In March 1950 the average value of a ration fed to poultry was $3.40 per hundred pounds compared with $3.47 a year earlier; a decline of 7 cents per cwt. The average value of the concentrate ration fed to milk cows was down 6 percent in the milk selling areas and 3 to 4 percent in the butterfat areas.

Prices of hogs, poultry, eggs and milk in recent months were down from a year earlier. Returns per $1.00 of feed cost for eggs and chickens were much less than a year ago and much below average (table 4). Return to farmers selling butterfat was better than a year ago, but still below the 1935-39 average. The margin over feed cost in dollars is much larger than prewar for both milk and butterfat even though the return per $1.00 of feed may be less. Return for feed fed to hogs was less than a year ago but still above average.

These recent price relationships, if continued, will tend to discourage the production of eggs and chickens except on the most efficient farms. High producing strains of pullets use less feed per dozen eggs. The close culling of non-producing hens is a way of reducing feed costs of the laying flock. The maximum use of pasture for raising pullets this coming summer is another practice that will save the more expensive feed and reduce costs. Rations with adequate protein content cost less per dozen eggs or per pound of chicken than unbalanced rations.

Average weights of barrows and gilts marketed this winter have been lower than a year earlier. They are back nearly to prewar weights. Heavy hogs

Table 3.- Average value of feeds in the United States, March 15, 1950, with comparisons

Item	Unit	March 15, 1949	February 15, 1950	March 15, 1950
Prices received by farmers				
Corn	Bushels	$ 1.18	$ 1.16	$ 1.19
Oats	do.	.70	.71	.72
Barley	do.	1.06	1.09	1.10
Sorghum grain	Cwt.	2.17	1.88	1.93
Hay, baled	Ton	25.00	21.50	21.20
Feed grains and hay, Index number (1935-39=100)		185	180	183
Prices paid by farmers				
Mixed dairy feed 16%	Cwt.	3.59	3.38	3.41
Laying mash	do.	4.45	4.31	4.34
Cottonseed meal	do.	3.39	3.76	3.74
Soybean meal	do.	4.09	4.02	4.11
Linseed meal	do.	4.40	4.26	4.26
Meat scrap	do.	6.04	5.88	6.15
Bran	do.	3.15	2.80	2.86
Middlings	do.	3.25	2.91	3.00
Alfalfa hay, baled	Ton	35.80	32.40	31.80
Prices paid by farmers, Index number (1935-39=100)		20	191	190
Average value of ration fed to poultry and milk cows				
Fed to poultry	Cwt.	3.47	3.35	3.40
Fed to milk cows in milk selling areas	do.	3.23	3.00	3.04
Fed to milk cows in cream selling areas	do.	2.74	2.60	2.65

have sold at a discount compared with medium weight hogs. However, the discount has not been large enough to offset the gain in weight. It would have paid many farmers to market hogs at heavier weights this winter. With prospective increasing numbers of hogs coming to market soon and seasonally declining prices expected it probably will not pay to carry them to heavy weights this spring.

One of the most important places that feed can be saved on hogs is to reduce death loss. Farmers should strive hard to see that all of the pigs born alive are saved. If a sow weans 16 pigs in a year from two litters the feed charge per pig to weaning time is from 100 to 125 pounds of grain. If she saves only half as many pigs the feed cost per pig to weaning is obviously nearly twice as much. Hogs on many farms are fed less high protein feeds than they require for greatest production or gain efficiency. It is especially important that they have adequate protein from weaning up to 125 pounds weight. Hogs fed properly require less time to reach marketable weights. They can be ready for market 2 to 3 weeks early and thereby often bring higher prices than those coming to market later. Thus, hogs fed properly balanced rations not only put on gain with less feed per pound of gain but also can be marketed early and often enable producers to obtain a better price.

Table 4.- Returns per $1.00 of feed cost, United States, February 15, 1950, with comparisons 1/

Item	1935-39 average	February 15, 1949	January 15, 1950	February 15, 1950
Eggs	$ 1.72	$ 1.73	$ 1.32	$ 1.26
Chickens	1.84	1.90	1.34	1.44
Hogs	1.50	2.12	1.60	1.75
Milk	1.99	1.81	1.91	1.89
Butterfat	1.53	1.25	1.40	1.41

1/ The following quantities of feed were used in calculating feed cost: 7 pounds of poultry ration per dozen eggs; 4½ pounds of poultry ration per pound of chicken; 7½ bushels of corn plus 20 pounds of soybean meal per 100 pounds of hogs; 30 pounds of concentrate ration fed to milk cows in milk selling areas plus the value of 110 pounds of hay, per 100 pounds of milk; 7½ pounds of concentrate ration fed to milk cows in cream selling areas plus the value of 27.5 pounds of hay in Minnesota and Iowa, per pound of butterfat. The hay for milk cows includes an allowance for silage and pasture.

Heavy feeding of grain to milk cows continues. Price relations are more favorable for heavy feeding in milk selling areas than in cream selling areas. High beef prices during the past few years have contributed to the heavy culling of dairy cows particularly in cream areas. Partly as a result of this, milk output per cow reached a new high figure in 1949. Heavy grain feeding also contributed to the high output per cow. Grain feeding during the summer period in recent years has been much higher than before the war but it is probable that it is still below the most profitable level on many farms. Pastures are seldom productive enough to supply sufficient feed even for a few weeks to maintain milk production of good cows. Grain and hay should be used liberally to supplement the pastures especially when feed output in pasture begins to fall off.

In figuring the effect of any proposed change in production practices on costs the farmer should consider its effect on the cost per pound of product obtained rather than on the cash outlay alone. Buying a few hundred pounds of soybean meal or other high protein feed will increase the total cash outlay but will decrease the cost per pound of milk or hogs produced if it is used to balance the ration. It will make the farmers' home-raised grain go farther and increase the production of livestock.

Seeds

For 18 out of 30 kinds of seed for which retail prices are available, prices were lower on March 15, 1950 than a year earlier. Lower prices were quoted for most of the seed grains, alfalfa, red clover, Ladino clover, lespedeza, crested wheatgrass, millet, sorgo seeds, and seed potatoes. Higher prices were quoted for sweetclover, timothy, redtop, Kentucky Bluegrass, orchard grass, ryegrass and bromegrass seeds.

With prices of grass seed relatively high compared with those of legume seeds, many farmers may conserve on grass seed by sowing more legume seed for hay and pasture. Others who have been using more seed per acre than is usually recommended may cut down on the amount of seed sown per acre. Still others may to advantage delay reseeding pasture and hayland and thereby reduce the demand on the available supply.

Adequate supplies of all kinds of vegetable seeds are available, although the carryover on June 30, 1950 is expected to be smaller than last year for most kinds.

Total supply (production plus carry over) of legume, grass, and cover crop seeds is about 5 percent larger than it was for the 1949 season but about 10 percent smaller than the average for the 5 years 1944-48. Supplies of legume seeds are 8 percent larger than last year, whereas supplies of grass seeds are about the same as a year ago but only 63 percent of the 1944-48 average.

A large part of the sweetclover and bromegrass seed and much of the alfalfa seed used by farmers in the United States come from other countries. Last year 22 percent of the alfalfa seed, 47 percent of the sweetclover seed and 53 percent of the bromegrass seed were imported. Imports of these seeds from July 1, 1949 through February 1950 were less than a year earlier, but it is too early to estimate total imports of seed for this season. A large increase in imports of white clover seed, primarily from New Zealand, offsets in part the decrease in imports of other seeds.

Fertilizer

Lower farm prices may result in some slackening in demand for mixed fertilizers for the 1950 crop season. On the other hand, farm product prices in relationship to fertilizer costs are still favorable to increased use of fertilizer. Also farmers have learned more about using fertilizers and the response in yields to their use. This will tend to keep up fertilizer consumption near current levels. The recent strike at the Carlsbad mines was responsible for loss of about two months production of potash but this is being partially overcome by imports.

Because of high demand for ammonium nitrate in some sections during the next two months, this item apparently will not be in sufficient supply to meet all requests. However, except for localized seasonal tight spots, supplies of other nitrogenous materials are expected to be adequate to meet demands during 1950. Phosphates are expected to be adequate throughout the season. This spring's supply of potash will be fair but will reflect the curtailed production of last winter. Adequate supplies are expected during the subsequent months.

Prices of fertilizer in 1950 are expected to remain near levels of 1949. Slightly lower wholesale prices of some of the materials used for nitrogenous fertilizers are offset by higher freight costs so that prices to farmers will probably be about the same as for the past year.

One way of figuring fertilizer costs for individual farmers is in terms of the value of yields sacrificed by not using enough fertilizer. Surveys of fertilizer use on farms for the year 1947 indicate that considerably more nitrogen is being used on corn in the Eastern and Southern States. On farms in North Carolina where corn was fertilized, 96 percent of the acreage was treated at an average rate of about 250 pounds per acre. The most common grades used were 4-10-6 and 16-0-0.

About one-third of the farmers interviewed in North Carolina that used fertilizer on corn, applied straight nitrogen material (mostly 16-0-0). About half of these had previously applied a complete fertilizer such as 4-10-6 or 5-10-5. Where both complete and straight nitrogen fertilizer was applied on corn, the average rate was 340 pounds of complete fertilizer, followed by approximately 110 pounds of 16-0-0 as a side dressing. In terms of plant nutrients (nitrogen, phosphoric acid, and potash) the average rates per acre were 68 pounds in complete fertilizer and 18 pounds in straight nitrogen materials.

These average rates seem quite low when compared with response obtained from fertilizer applications on corn in some areas. For example, experimental results in North Carolina on loamy sand indicate that when 180 pounds of plant nutrients (20, 80, and 80 pounds of N, P_2O_5 and K_2O, respectively) had been applied at planting time as much as 150 pounds of nitrogen in some form (an equivalent of 900 pounds of 16-0-0) as a side dressing would have paid its way under fertilizer-price relationships existing in 1947. An average of only about 110 pounds of 16-0-0 was applied as a side dressing on the farms surveyed. It appears that side applications of this amount are far below the most profitable rates under current cost-price relationships. The data from the North Carolina experiments are presented only as an illustration of the problems of determining the most profitable rates of fertilizer application. Results obtained from different types of fertilizer used [1] and rates of application depend much on type of soil, crop, and climatic conditions.

Proper placement of fertilizer in the soil is an important item in getting maximum yields from applications of fertilizers. This is particularly true in the case of phosphates which do not move readily in the soil after application. The proper combination of fertilizer and moisture is essential and this means getting the fertilizer somewhat below the surface and reasonably close to the seed. It is important also to obtain an adequate concentration of fertilizer in the root feeding area rather than to scatter the phosphate throughout the soil mass. Doing these things helps to obtain more nearly normal response especially in seasons when there is a shortage of moisture. General recommendations for getting phosphate fertilizer applied in proper concentration near the plant root area apply also to irrigated crops and yet much of the phosphate used under Western irrigation conditions aside from that used on sugar beets is still applied as a surface treatment.

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[1] For ways of computing relative costs of plant nutrients, see "Fertilizer Economics", p. 540; 1938 USDA Yearbook, Soils and Men.

Building Materials, Supplies and Containers

Prices of building materials, supplies and containers are expected to be steady to slightly higher in 1950 than in 1949. None of these commodities has decreased substantially in price in the past 6 months, and no such change appears likely. Supplies of these materials are expected to be adequate to meet requirements for agriculture through the present year.

Estimated lumber production in 1949 was about 10 percent lower than in 1948. December stocks were not appreciably different from a year earlier. But average wholesale prices for 1949 were about 10 percent lower than in 1948. The January 1950 price index was slightly higher than the 1949 average.

The new steel wage agreement was followed by an increase in steel prices of about $4 a ton. By using scrap steel in place of pig iron, steel makers kept operations at a high level despite the recent coal strike. Assuming no more serious work stoppages in the coal or steel industries, supplies of steel and steel products are expected to be sufficient to meet agricultural needs this year. Prices will probably be slightly higher than in 1949.

Total steel production for 1949 was more than 10 percent below production in 1948. However, the 1949 production was the third largest for any peacetime year. Items such as galvanized and cold rolled sheet and some types of pipe remained rather short in supply. However, there has been no critical lack of steel for agricultural production or grain storage.

Aluminum sheet and other aluminum products have become important in agriculture. Production for 1949 was almost the same as for 1948. Present demands are being met and adequate supplies of aluminum products for 1950 seem assured. No particular price changes have occurred in more than a year. None is expected in 1950.

Prices of cement have increased steadily and a continued but small price increase may be expected in 1950. Supplies are expected to be sufficient to meet all demands in 1950. New plants have been added recently and the industry has greatly improved old plants to increase their capacity. Production, stocks, and inventories have increased consistently and substantially the past 2 years. Production and shipments in 1949 were about 10 percent greater than in 1947. Stocks at the end of 1949 were 40 percent greater than 2 years earlier.

Prices of most kinds of containers probably will be about the same as at the close of 1949, or perhaps slightly higher. Nearly all kinds of containers are apparently in good supply to meet present and anticipated needs in agricultural production and marketing. The supply of new burlap bags is dependent on world political and economic conditions. Stocks were rather low at the end of 1949 but it is expected that farmers' needs will be met. With no serious world changes, the supply of both new and used bags will be adequate during 1950, at no increase in prices over 1949. Wood and fibre containers of importance to agriculture are expected to be in sufficient supply.

Insecticides and Fungicides

Prices of insecticides and fungicides in 1950 are expected to remain substantially at the level that prevailed at the end of the 1949 season. Minor increases may result from changes in transportation charges and cost of specialized containers.

The production of insecticidal chemicals such as DDT and benzene hexachloride has been curtailed because of the coal shortage during the early part of 1950. If insects appear in more than average abundance during the 1950 season, supplies of some of the new insecticides may not be adequate to meet all the demands. Local shortages may occur under these conditions. Supplies of arsenical insecticides will be available in quantities sufficient to meet demands in 1950.

For the most part, however, materials needed to protect crops from insects and diseases during the coming season are expected to be available. Insecticides containing rotenone and pyrethrum are expected to be adequate. Insecticides containing Ryania which is used largely to control the European corn borer in canning corn will be available in larger quantities than last year, but the amount may not be sufficient to satisfy all demands.

Realizing the advantages of protecting their crops from pests, many farmers are beginning to order insecticides and fungicides well in advance of the season. For example, during the latter part of 1949 and the early part of 1950 farmers and dealers--particularly in the South--placed orders for insecticides they may need during the 1950 season. Some insecticides such as benzene hexachloride, toxaphene, and DDT mixtures that were available in rather limited supply last season have been stocked for use in the early part of the 1950 season. On this basis, it is fair to assume that the initial part of the insecticides needed to protect next season's crops from insects and plant diseases will be available to meet early season needs. To be prepared to protect their crops, it is important that farmers and local dealers determine as promptly as possible the kinds and quantities of insecticides that they anticipate will be needed, and place orders with their suppliers without delay. This is particularly true of some of the more complex modern compounds.

Farm Land Values and Rentals

The 17 percent drop in net farm income in 1949 brought the first decline of the past 10 years in land values. After reaching a record peak in November 1948 which was 77 percent above the 1912-14 average and 113 percent above 1935-39, the national index of farm real estate values declined 1 percent by March 1949, and an additional 2 percent by July. These initial declines were more pronounced in the Mountain and Pacific Coast States than in other parts of the country. Values continued at or slightly above previous peaks in several of the North Central States throughout 1949. Present indications are that land values continued firm to slightly higher in many States from November 1949 to March 1950 but the level for the country as a whole this March was about 3 percent lower than a year ago. The decline in the Mountain and Pacific Coast States and in the Southeast have been somewhat larger than the national average.

The downward trend in prices received for most farm products in 1949, and the prospect that net farm income will continue to decline in 1950, has also changed the supply and demand aspects of the farm real estate market. Prospective buyers are now more inclined to shop around for a farm that will pay out over the long run. Location, condition of buildings and quality of land now receive more attention than in earlier years when prices of all grades of farms were rising sharply. Demand has slackened for the poorer farms, and sellers must usually drop their asking prices to make a sale. Demand continues strong for the better grades of land in the Corn Belt, however, but the supply for sale is limited. Present owners are not anxious to sell because returns from such land is likely to remain good even if farm income declines to expected levels.

Financing the purchase of farm land is not as easy as it was a few years ago. Lower farm income has not only tended to reduce the amount of cash prospective buyers have available for a down payment, but has also prompted many lenders to adopt a more conservative lending policy. Interest rates on new farm mortgage credit have increased slightly. Individual loan applications tend to be screened more carefully in an effort to eliminate the poorer risks.

Total volume of farm mortgage recordings in 1949 was slightly below 1948, mainly because of the smaller volume of sales. A higher proportion of all sales in 1949 were financed in part by credit. But the average amount loaned has remained fairly constant at between 50 and 55 percent of the purchase price. Federal credit agencies increased their volume of farm mortgage loans in 1949, but commercial banks were not as active as in past years.

The value of gross rental payments in 1949 was lower for the second consecutive year. Cash rents were about 2 percent higher than in 1948, but the value of crop share rents was 7 percent lower, and the total gross value of all rents was down by about the same amount. Expenses paid by landlords totaled only 2 percent less than in 1948. Farm real estate taxes on leased lands were about 8 percent higher while seed and insurance costs were also higher. Preliminary estimates show a net rental income in 1949 of about $1,843 million or 9 percent less than in 1948. This represents a net return of about 7.8 percent on an investment valued at $23.7 billion. Although this rate earned is slightly less than in previous years, it is still considerably higher than the interest rate on farm mortgages and nearly twice as high as the rate earned on leased land during pre-war years.

Interest, Taxes, and Insurance

Interest payments - The amount of interest payments on the total farm debt will increase again in 1950. Such payments on short-term debt during 1950 probably will be about 5 percent greater than during 1949. This level of interest costs is from 70-80 percent higher than that for the war years 1941-45. Following the end of the war in 1945 the use of short-term credit expanded rapidly and by January 1, 1949 the outstanding debt was nearly 70 percent higher than on January 1, 1946. By January 1950 it was more than 80 percent higher than the 1946 level. However, during the past year the rate of increase has slackened appreciably. On the basis of meager data from the Federal agencies it appears that a curtailment has been made in the average size of loan. The number of farmers using short-term credit is as large if not larger than in the past several years. The rate of interest charged on short-term loans remains at about the level of last year.

Interest payments on farm-mortgage loans can be expected to show another rise during 1950 which probably will be in the neighborhood of 6 or 7 percent. The increase which occurred last year was about 5 percent. The present increase marks the fourth successive increase since interest payments were at a long-time low in 1946. It is estimated, however, that only about one-third of the farm owners have such loans and are making such payments, although the proportion is probably increasing.

Again the increase in interest payments on such farm mortgages will result from a further increase in the amount of loans outstanding. There is at present no evidence that interest rates will rise. Furthermore, some farm owners who originally borrowed for short terms and at relatively high rates are refinancing at longer terms and lower rates.

Taxes - Tax levies on farm real estate in 1949, which are payable largely in 1950, are expected to show about the same average percentage increase as they did in 1948, or about 8 percent. This will mark the fifth year in which the increase in such levies has equaled or exceeded 8 percent. As a result, the average levy per acre in 1949 will set a new all-time high, exceeding the previous one recorded in 1929.

The relatively sharp increases in farmers' property taxes in recent years have come about partly through increases in assessed values, but largely through higher tax rates. In some States, in fact, assessed values have changed little. Higher operating costs of State and local governments and a need for expanded public facilities, particularly schools and roads, have been the chief factors behind the demands for more revenue. In a few States, this problem has been met by resorting to taxes other than those on property, but in most States, real estate continues to bear a large share of the farmer's tax load.

Farmers, of course, are subject to other taxes and these also have been increasing. Many States tax personal property as well as real estate and in cases where exemptions are low, farmers pay substantial amounts. They also pay considerable sums in automotive taxes, particularly on motor fuel. Income tax payments are the only ones that have declined but they are still larger than farm real estate taxes.

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Insurance - Insurance held by farm mutual companies totaled almost $22 billion on January 1, 1950, after an increase of about 9 percent in 1949 and 12 percent in 1948, based on sample figures submitted by 288 companies. The decreased rate of increase from 1948 to 1949 was probably due largely to the leveling off in farm property values.

The losses of farmers paid from insurance carried with farm mutuals decreased in '49 for the first time since 1942, and were about 13 percent lower than in 1948. Losses per $100 of insurance averaged about 14 cents, or 20 percent below the average for 1948. The expenses of farm mutuals are comparatively low, averaging about 8 cents per $100 of insurance in 1949, or slightly lower than in 1948. Thus the total cost to farmers averaged about 22 cents per $100 of insurance in 1949, which was about 12 percent lower than in 1940.

The safety or reserve funds of farm mutuals have increased steadily for many years, due primarily to the continued increase in insurance in force. In 1949, such funds--which belong to farmers--averaged about 51 cents per $100 of insurance, or 5 percent higher than in 1948 and 11 percent higher than in 1947.

Federal crop insurance will be offered in approximately 625 counties in 1950, or about a 50 percent increase over the number of counties in which such insurance was offered in 1949.